

CITY OF SUNNYVALE REPORT **Administrative Hearing**

May 26, 2004

SUBJECT:

2004-0321 - Cingular Wireless [Applicant] Resurrection

Catholic Parish [Owner]: Application on a 7.4-acre site located at 1385 Hollenbeck Avenue in a P-F (Public

Facility) Zoning District (APN: 323-06-005)

Motion

Use Permit to allow the co-location of three antennas within

a replacement cross on top of an existing church with

ancillary ground equipment.

REPORT IN BRIEF

Existing Site

Church and School Site

Conditions

Surrounding Land Uses

North

Church and School Site

South

Single Family Residential Single Family Residential

East

West

Single Family Residential

Issues

Aesthetics

Environmental

Status

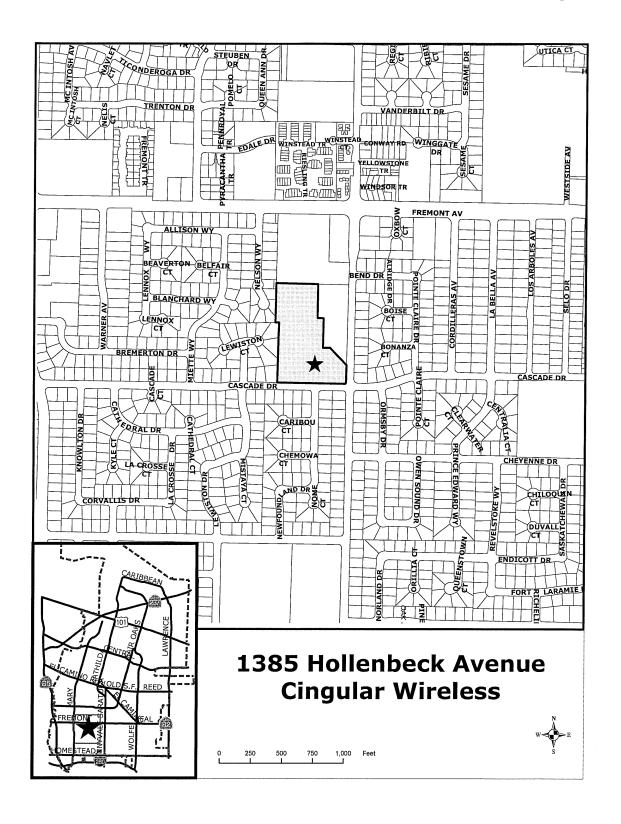
A Class 1 Categorical Exemption relieves this project from California Environmental Quality Act provisions

and City Guidelines.

Staff

Approve with Conditions

Recommendation



PROJECT DATA TABLE

	EXISTING	PROPOSED	REQUIRED/ PERMITTED
General Plan	SCH – Schools	Same	
Zoning District	PF – Public Facility	Same	
Lot Size (s.f.) 321,908		Same	No min.
Height of Building (ft.)	46'6"	Same	By Use Permit
Height at top of Cross	66'6"		
Setbacks to Cross (Proposed Antennas) (facing Cascade Drive)			
• Front	Approx. 150'	Same	As approved by Use Permit
• Left Side	Approx. 395'	Same	As approved by Use Permit
Right Side	Approx. 155'	Same	As approved by Use Permit
• Rear	Approx. 570'	Same	As approved by Use Permit

ANALYSIS

Background

Previous Actions on the Site: The following table summarizes previous planning applications related to the subject site.

File Number	Brief Description	Hearing/Decision	Date
2003-0673	Playground Structure in	Miscellaneous Plan	8/29/03
	rear yard	Permit/Approved	
2000-0719	Roof Mounted Antennas	Administrative	11/29/00
		Hearing/Approved	
1989-0030	Plan Modification to	Miscellaneous Plan	11/03/89
(#6824)	Trellis Structure	Permit/Approved	
1979-0443-	Modified Location for	Miscellaneous Plan	6/9/79
0446 (#3891)	Church Building colors	Permit/Approved	
	& Materials		
1964-0140,	Construct Church,	Planning	11/23/64
0141 (#1174)	School, Rectory &	Commission/	,
	Convent	Approved	

As noted in the table, a proposal for three roof mounted antennas was approved at 1395 Hollenbeck. Although this proposal is located on a different parcel, the site is utilized by the same property owner, the Catholic Resurrection Church. This similar proposal, on a church building at the northeast portion of the site, replaced the pre-existing cross with a new cross containing the antennas. Additional ground equipment was located within an enclosure at the rear of the site.

Description of Proposed Project

The proposed project is for the installation of 3 panel antennas installed within a replacement cross constructed on top of an existing church. The project also involves the installation of ground equipment which is positioned within an alcove at the rear of the building. The cross will be constructed of a fiberglass material painted white to match the pre-existing cross. The design of the cross and internal placement of the antennas will completely eliminate any visibility of the facility from the surrounding area.

Environmental Review

A Class 1 Categorical Exemption relieves this project from California Environmental Quality Act provisions and City guidelines. Class 1 Categorical Exemptions include minor additions to existing facilities.

Use Permit

Use: The proposed use is for a wireless telecommunication facility at an existing church/school site. The project involves the installation of three panel antennas within a replacement cross positioned on top of a church building. The project is considered a co-location as a past facility was approved on the site on a different building in 2000.

Site Layout: The subject site is located at the corner of Hollenbeck Avenue and Cascade Drive. The site is currently utilized for classrooms, offices and religious activities. The proposed facility would be located on top of the main church building located at the southeast portion of the site. Additional buildings located throughout the site would be unaffected with this proposal. An open grass field is located within the center of the site. Equipment associated with the telecommunication facility is located within an alcove at the rear of the building. A proposal in 2000 for a telecommunications project was approved on the neighboring parcel to the northeast, for three roof mounted antennas. See Site plan in Attachment #3 for more detail.

Architecture: There are no significant exterior changes proposed to the existing buildings on site. The existing cross will be replaced by a new cross that extends the same height (20 feet) above the church building. The new cross has a slightly larger diameter of 12" than the existing cross (10"). The fiberglass cross, positioned at the top of the building (46'6" feet above the ground), will contain three antennas within the top portion. The equipment will utilize a similar color as the church building. A photosimulation of the proposal is located in Attachment #6.

Landscaping: The proposal does not propose any additional landscaping for the site. Existing trees and shrubs provides adequate screening of the equipment cabinets from adjacent properties.

Parking/Circulation: No additional parking is required for the proposed use. Access to the antennas and equipment is provided with the existing parking lot.

Compliance with Development Standards

The following sections of the Wireless Telecommunication Ordinances of the Sunnyvale Municipal Code apply the proposed project:

19.54.40 (b) - All facilities shall be designed to minimize the visual impact to the greatest extent feasible, considering technological requirements, by means of placement, screening, and camouflage, to be compatible with existing architectural elements and building materials, and other site characteristics. The applicant shall use the smallest and least visible antennas possible to accomplish the owner/operator's coverage objectives.

19.54.040 (c) - Colors and materials for facilities shall be chosen to minimize visibility. Facilities shall be painted or textured using colors to match or blend with the primary background.

The proposed facility located within a cross will have a similar visual appearance to the existing cross. The antennas will be camouflaged within the white fiberglass replacement cross. The ancillary equipment is not visible from the public street or neighboring properties due to existing structures or landscaping on site.

19.54.030 (c) – Certification must be provided that the proposed facility will at all times comply with applicable health requirements and standards pertaining to RF emissions.

This project meets all FCC RF emissions standards as noted in the radio frequency analysis in Attachment #5.

Expected Impact on the Surroundings

As required by FCC regulations, the proposal shall comply with all RF emission standards. The applicant has submitted a study, conducted by Diamond Services, that indicates that the facility is within the Maximum exposure levels permitted by the FCC. Staff has also determined that the new cross will not have negative aesthetic impact to the surrounding area. The ancillary equipment is appropriately located at the rear of the church building.

Findings, General Plan Goals and Conditions of Approval

Staff was able to make the required Findings based on the justifications for the Use Permit.

- Findings and General Plan Goals are located in Attachment 1.
- Conditions of Approval are located in Attachment 2.

Fiscal Impact

No fiscal impacts other than normal fees and taxes are expected.

Public Contact

Notice of Public Hearing	Staff Report	Agenda
 Published in the Sun newspaper Posted on the site Mailed to 32 adjacent property owners and residents of the project site 	 Posted on the City of Sunnyvale's Website Provided at the Reference Section of the City of Sunnyvale's Public Library 	 Posted on the City's official notice bulletin board City of Sunnyvale's Website Recorded for SunDial

Staff has received inquiries from nearby residents regarding the proposed project. Many of these concerns relate to possible exposure effects from the facility to the surrounding area. As noted in the report and conditioned by this Use Permit, if approved, the facility shall comply with all FCC emission standards.

Alternatives

- 1. Approve the Use Permit with the attached conditions.
- 2. Approve with Use Permit with modified conditions.
- 3. Deny the Use Permit.

Recommendation

Recommend Alternative 1.	
Prepared by:	
	_
Ryan M. Kuchenig Project Planner	
Reviewed by:	

Diana O'Dell Senior Planner

Attachments:

- 1. Recommended Findings
- 2. Recommended Conditions of Approval
- 3. Site and Architectural Plans
- 4. Letter from the Applicant
- 5. RF Emissions Analysis
- 6. Photosimulations

Recommended Findings - Use Permit

- 1. The proposed use attains the objectives and purposes of the General Plan of the City of Sunnyvale. The Wireless Telecommunications Policy promotes retention of local zoning authority when reviewing telecommunication facilities. The zoning code requires that the location of telecommunication facilities be designed with sensitivity to the surrounding areas. The proposed facility is compliant with all wireless telecommunication development standards:
 - The project meets all FCC RF emissions standards:
 - As proposed, the antennas are not visible from residentially zoned properties.
 - The project is not visible from any major arterial streets, freeways or expressways.
 - The project is not visible from the Downtown Specific Plan area or other areas identified in the Telecommunications code as being sensitive.
- 2. The proposed use is desirable, and will not be materially detrimental to the public welfare or injurious to the property, improvements or uses within the immediate vicinity and within the Zoning District. As conditioned, the proposed co-location meets the visual standards established by the City of Sunnyvale for telecommunication facilities. The project also meets all FCC RF emissions standards.

Recommended Conditions of Approval - Use Permit

In addition to complying with all applicable City, County, State and Federal Statutes, Codes, Ordinances, Resolutions and Regulations, Permittee expressly accepts and agrees to comply with the following conditions of approval of this Permit:

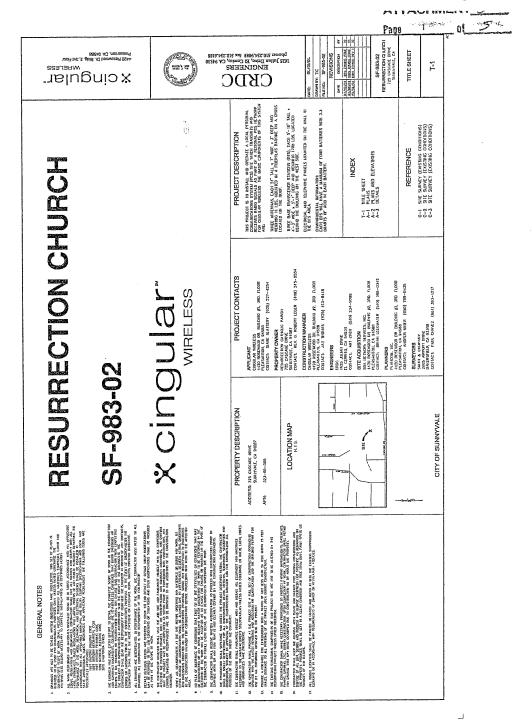
Unless otherwise noted, all conditions shall be subject to the review of approval of the Director of Community Development.

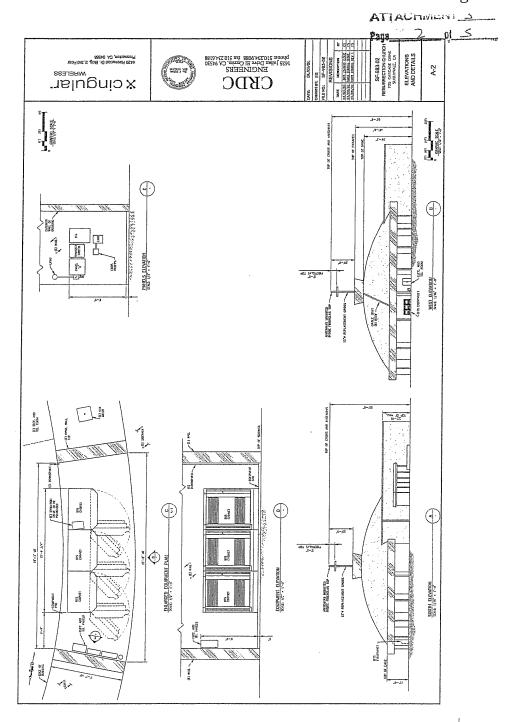
- 1. Submit for Building Permits prior to construction/installation activity.
- 2. The conditions of approval shall be reproduced on cover sheet of the plans submitted for a Building Permit for this project.
- 3. Any noise associated with the proposed facility shall not exceed requirements set forth in Section 19.42.030 of Sunnyvale Municipal Code.
- 4. Every owner or operator of a wireless telecommunication facility shall renew the facility permit at least five (5) years from the date of initial approval.
- 5. Any major modifications or expansion of the approved use shall be approved at a separate public hearing by the Director of Community Development. Minor modifications shall be approved by the Director of Community Development.
- 6. Each facility must comply with any and all applicable regulations and standards promulgated or imposed by any state or federal agency, including but not limited to, the Federal Communication Commission and Federal Aviation Administration.
- 7. Certification must be provided that the proposed facility will at all times comply with all applicable health requirements and standards pertaining to RF emissions.
- 8. The owner or operator of any facility shall obtain and maintain at all times a current business license issued by the city.
- 9. The owner or operator of any facility shall submit and maintain current at all times basic contact and site information on a form to be supplied by the city. Applicant shall notify city of any changes to the information submitted within thirty (30) days of any change, including change of the

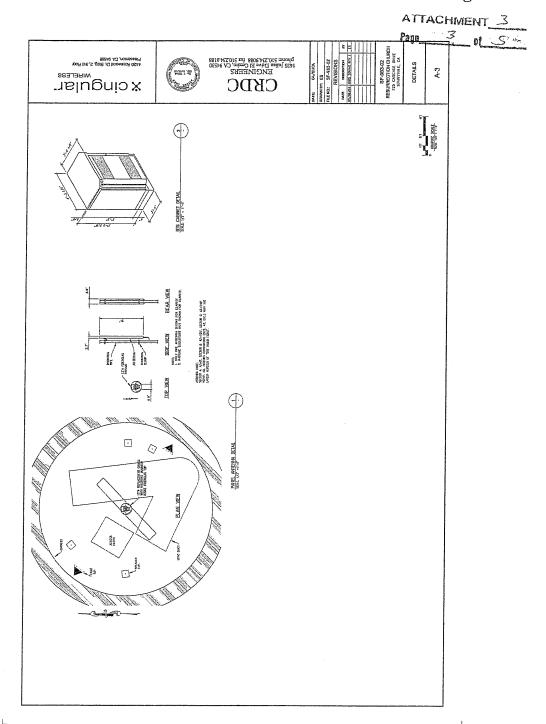
name or legal status of the owner or operator. This information shall include, but is not limited to the following:

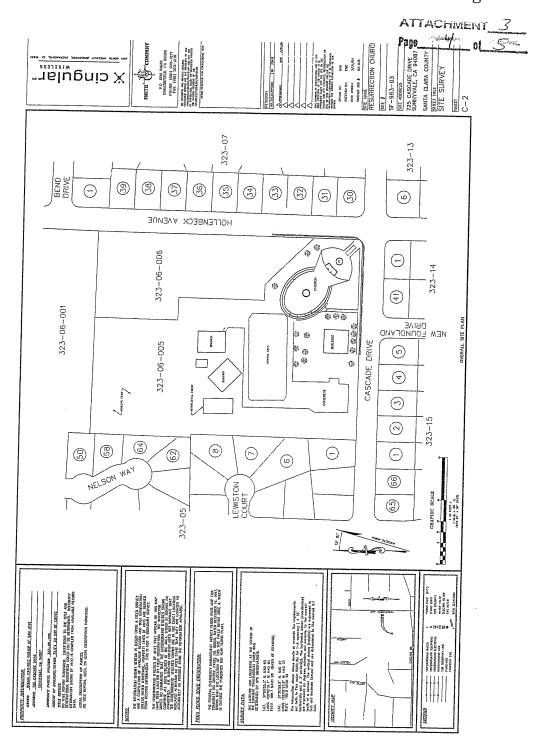
- a. Identity, including name, address and telephone number, and legal status of the owner of the facility including official identification numbers an FCC certification, and if different from the owner, the identity and legal status of the person or entity responsible for operating the facility.
- b. Name, address and telephone number of a local contact person for emergencies.
- b. Type of service provided.
- 10. All facilities and related equipment, including lighting, fences, shields, cabinets, and poles, shall be maintained in good repair, free from trash, debris, litter and graffiti and other forms of vandalism, and any damage from any cause shall be repaired as soon as reasonably possible so as to minimize occurrences of dangerous conditions or visual blight. Graffiti shall be removed from any facility or equipment as soon as practicable, and in no instance more than forty-eight (48) hours from the time of notification by the city.
- 11. Each facility shall be operated in such a manner so as to minimize any possible disruption caused by noise. Backup generators shall only be operated during periods of power outages, and shall not be tested on weekends or holidays, or between the hours of 10:00 p.m. and 7:00 a.m. on weekend nights. At no time shall equipment noise from any source exceed an exterior noise level of 60 dB at the property line.
- 12. Each owner or operator of a facility shall routinely and regularly inspect each site to ensure compliance with the standards set forth in the Telecommunications Ordinance.
- 13. The wireless telecommunication facility provider shall defend, indemnify, and hold harmless the city of any of its boards, commissions, agents, officers, and employees from any claim, action or proceeding against the city, its boards, commission, agents, officers, or employees to attack, set aside, void, or annul, the approval of the project when such claim or action is brought within the time period provided for in applicable state and/or local statutes. The city shall promptly notify the provider(s) of any such claim, action or proceeding. The city shall have the option of coordination in the defense. Nothing contained in this stipulation shall prohibit the city from participating in a defense of any claim, action, or

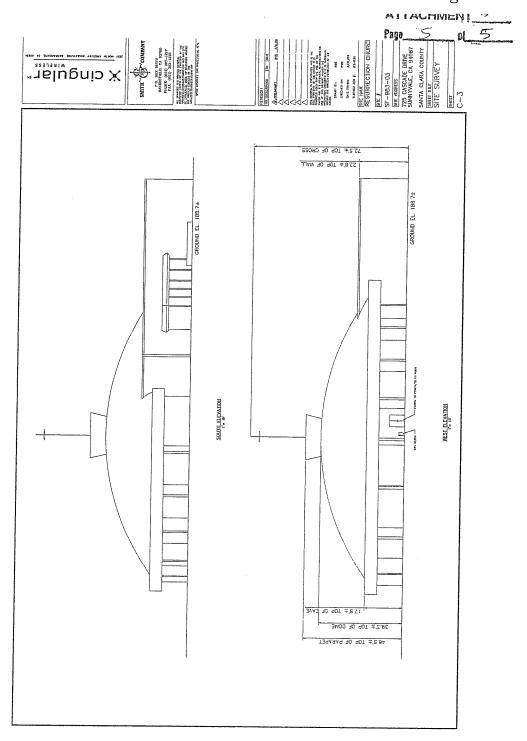
- proceeding if the city bears its own attorney's fees and costs, and the city defends the action in good faith.
- 14. Facility lessors shall be strictly liable for any and all sudden and accidental pollution and gradual pollution resulting from their use within the city. This liability shall include cleanup, intentional injury or damage to persons or property. Additionally, lessors shall be responsible for any sanctions, fines, or other monetary costs imposed as a result of the release of pollutants from their operations. Pollutants mean any solid, liquid, fumes, acids, alkalis, chemicals, electromagnetic waves and waste. Waste includes materials to be recycled, reconditioned or reclaimed.
 - 14. Wireless telecommunication facility operators shall be strictly liable for interference caused by their facilities with city communication systems. The operator shall be responsible for all labor and equipment costs for determining the source of the interference, all costs associated with eliminating the interference, (including but not limited to filtering, installing cavities, installing directional antennas, powering down systems, and engineering analysis), and all costs arising from third party claims against the city attributable to the interference.













ATTACHNIENT Y

USE PERMIT JUSTIFICATION

SF-983-02 725 Cascade Drive, Resurrection Church Sunnyvale, CA 94087

Prepared for:

City of Sunnyvale

Planning Division Department of Community Development P.O. Box 3707 Sunnyvale, CA 94088

Prepared by:

PlanCom, Inc.

Contractor Representatives for Cingular Wireless

4420 Rosewood Drive Building 2, 3rd Floor

Pleasanton, CA 94588

650 799-0435

Contact: Andrew R. Miner, AICP, Planning Consultant

April 14, 2004



ATTACHMENT 4
Page 2 of 3

USE PERMIT JUSTIFICATION

Question #2.

Show how the proposed use is desirable and not detrimental to the public welfare or injurious to the property, improvements or uses within the immediate vicinity and within the zoning district.

Answer:

The project site is an existing church located at 725 Cascade Drive. The site is zoned PF, Public Facilities zone district. The proposal is to replace the existing cross located on top the church with one that contains the three antennas inside an "RF-friendly" fiberglass radome. The radome will be 12" in diameter and will be painted white to match the replaced cross. The new cross will maintain the same height as the existing one. The primary coverage objective of the site is to increase coverage throughout the residential area along Hollenback from Fremont to Homestead. The antennas need maximum height in order to provide the needed coverage to this area. The site is generally bounded by the following:

North:

Church property

South:

Residential

East:

Residential

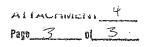
West:

Residential

The location, size, design, and operating characteristics of the proposed communications facility will not create unusual noise, traffic or other conditions or situations that may be objectionable, detrimental or incompatible with other permitted uses in the vicinity. This determination is supported by the following:

- By replacing the existing cross with a slightly wider one at the same height, the antennas will not be visibly intrusive to residential uses.
- 2. The antennas are enclosed inside the new cross, which will allow it to blend in with the other structures on the property and in the area.
- 3. The use of this structure on the roof eliminates the need for a freestanding monopole-type structure in the area.
- 4. The equipment associated with the communication structure operates quietly or virtually noise-free.





- 5. The equipment does not emit fumes, smoke, or odors that could be considered objectionable.
- 6. The communications facility is unmanned and only requires periodic maintenance that equates to approximately one vehicle trip per month.

Further, the proposed communications facility will not result in conditions or circumstances contrary to the public health, safety and welfare, in that:

- The proposed PCS communications facility will operate in full compliance with the U.S. standards for radiofrequency emissions as adopted by the FCC.
- 2. The radiofrequency emissions emitted by the proposed PCS facility will fall within the portion of the electromagnetic spectrum, which transmits non-ionizing radio waves. Non-ionizing electromagnetic emissions, at the low levels associated with this type of wireless technology, are not harmful to living cells. Among the items, which result in non-ionizing electromagnetic emissions, are police/fire/EMS radios, television broadcasts, CB radios, microwave ovens, and a variety of common household electronics including garage door openers and baby monitors. Conversely, items that transmit ionizing electromagnetic emissions include ultra-violet light, medical x-rays and gamma rays.
- 3. Data currently available on the effects of electromagnetic transmissions on public health indicate that there is not likelihood of negative impacts to public health and safety.

Diamond Services 3860 Industrial Way Benicia, Ca 94510 Ph: (707) 751-5900 Fax: (707) 751-5901 ATTACHMENT 5

RADIO FREQUENCY ANALYSIS
PROPOSED PERSONAL COMMUNICATION SYSTEM
BASE STATION
CINGULAR WIRELESS SITE NO. SF 983-02
"RESURRECTION CHURCH"
725 CASCADE DRIVE,
SUNNYVALE, CALIFORNIA

By: Diamond Services Date 05/14/2004

ATTACHMENT 5



Diamond Services 3860 Industrial Way Benicia, Ca 94510 Ph: (707) 751-5900 Fax: (707) 751-5901

Report Summary

Based upon information provided by Cingular Wireless, and through physical verification of the emitted RF field strength, and through calculations of expected field strength, it is the engineer's opinion that the proposed Cingular Wireless Personal Communication System (PCS) site to be located at 725 Cascade Drive, Sunnyvale, California will comply with the FCC's current prevailing standard for limiting human exposure to RF energy. Therefore, no significant impact on the environment or general population is expected.

The measured and calculated electromagnetic field strength in normally publicly accessible areas is less than the existing standard allows for general population uncontrolled exposure. All accessible areas around the church were surveyed at ground and roof level. The maximum measured RF level on the ground was 0.66% of the limit for general population uncontrolled exposure. The maximum measured RF level on the roof was 1.64% of the limit for general population uncontrolled exposure.

In areas normally accessible to the general public, the effect of the proposed Cingular Wireless antennas is calculated to be 0.20% of the existing standard for general population uncontrolled exposure.

The combined effect of the measured RF level and the maximum calculated additional contribution at ground level is 0.86% of the existing standard for general population uncontrolled exposure.

For personnel who perform maintainenance or work near the antennas, a training program in exposure to RF fields is recommended, since any access closer than 7 feet to the face of a Cingular PCS antenna could expose personnel to RF field levels greater than the occupational limits, and such access should be prohibited. At this site, public access to the face of an antenna would be difficult. Maintenance personnel should be instructed to contact Cingular Wireless prior to working in front of an antenna.

Additionally, RF warning signs should be placed at the roof access point(s) and at the base of the replacement cross.

Background

Diamond Services¹ has been retained by Cingular Wireless to conduct a Radio Frequency (RF) electromagnetic analysis for a proposed Personal Communication System (PCS) base station to be located at 725 Cascade Drive, Sunnyvale, California. This analysis consists of a review of the proposed site conditions, calculation of the estimated RF field strength of the PCS base station,

ATTACHMENT S

Diamond Services

and the provision of a comparison of the estimated field strength with the Federal Communication Commission (FCC) recommended guidelines for human exposure to RF electromagnetic fields.

Site Description

Based upon the drawings provided by the design engineer, three proposed panel antennas will be mounted in a replacement cross. The antennas will be mounted approximately 62'- 3" (to bottom of lowest antennas) above ground level. The antennas will be oriented such that the main lobes are oriented toward the horizon. Normal public and occupational access to the front of the antennas is not expected due to the mounting location and method utilized.

RF Field Strength Calculation Methodology

A generally accepted method is used to calculate the expected RF field strength. The method uses the FCC's recommended equation² which predicts field strength on a worst case basis by <u>doubling</u> the predicted field strength. The following equation is used to predict maximum RF field strength:

Equation 1
$$S = \frac{(2)^2 PG}{4\pi R^2} = \frac{PG}{\pi R^2} = \frac{EIRP}{\pi R^2}$$

Where:

S = power density

P = power input to the antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

Using a maximum effective radiated power of 400 watts, and a down tilt of 5° , the maximum calculated field strength for this site at 6'-6'' above ground level in front of an antenna is $0.0020 \, \text{mW/cm}^2$. Using this result, the maximum calculated field strength at ground level is 0.20% of the applicable public limit for uncontrolled exposure.

See Table 1 for the FCC's guidelines on Maximum Permissible Exposure (MPE). Note that the RF range referenced for this analysis is the range of 1500 - 100,000 Mhz shown in Table 1, which is included in Appendix A.

RF Field Strength Survey Methodology

Mark Marcus, of Diamond Services utilized a Holaday HI-4460 RF field strength survey meter with model HI-4455 probe to quantify the RF field strength at various points around the church. The calibration date for the Holaday HI-4455 probe is May 28, 2003. The maximum observed field at ground level was 0.0066 mW/cm². The maximum observed field at roof level was 0.0164 mW/cm². The survey was performed on 05/12/2004 at approximately 12:00:00 PM.

See Table 1 for the FCC's guidelines on Maximum Permissible Exposure (MPE). Note that the RF range referenced for this analysis is the range of 1500 – 100,000 Mhz shown in Table 1, which is included in Appendix A.

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Exposure Environments

The FCC guidelines incorporate two separate tiers of exposure limits that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to exposure. The decision as to which tier applies in a given situation should be based on the application of the following definitions.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.

For purposes of applying these definitions, awareness of the potential for RF exposure in a workplace or similar environment can be provided through specific training as part of a RF safety program. Warning signs and labels can also be used to establish such awareness as long as they provide information, in a prominent manner, on risk of potential exposure and instructions on methods to minimize such exposure risk. For example, a sign warning of RF exposure risk and indicating that individuals should not remain in the area for more than a certain period of time could be acceptable.

Another important point to remember concerning the FCC's exposure guidelines is that they constitute *exposure* limits (not *emission* limits), and they are relevant only to locations that are *accessible* to workers or members of the public. Such access can be restricted or controlled by appropriate means such as the use of fences, warning signs, etc., as noted above. For the case of occupational/controlled exposure, procedures can be instituted for working in the vicinity of RF sources that will prevent exposures in excess of the guidelines. An example of such procedures would be restricting the time an individual could be near an RF source or requiring that work on or near such sources be performed while the transmitter is turned off or while power is appropriately reduced.

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Qualifications of Reporting Engineer
Mr. Runte has been involved in the measurement of RF emissions since 1979. He has designed numerous RF systems including both site design and RF system design. He is a registered Professional Engineer in the state of California, and all contents of this report are true and correct to the best of his knowledge.

Signed:

Matthew J. Runte, P.E.

Date: 05/14/2004

Professional Engineer Stamp

Cingular Site No. SF 983-02_1

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APPENDIX A

Term Definitions

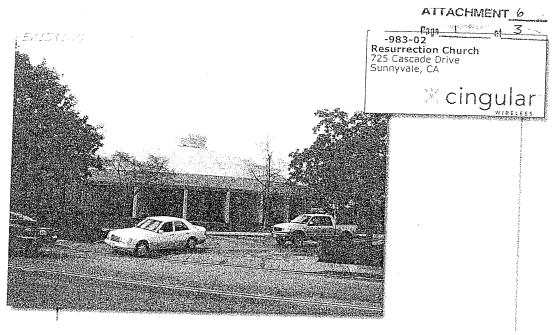
Exposure Exposure occurs whenever and wherever a person is subjected to electric, magnetic or electromagnetic fields other than those originating from physiological processes in the body and other natural phenomena.

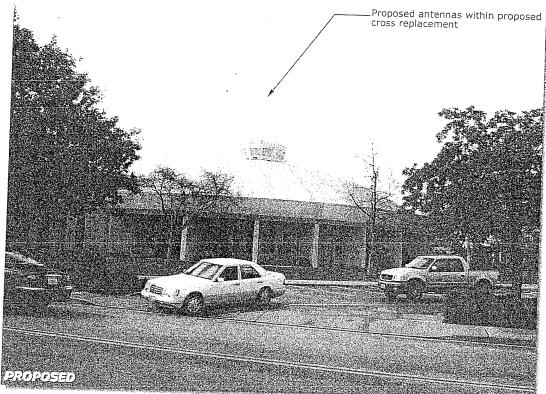
Exposure, partial-body. Partial-body exposure results when RF fields are substantially nonuniform over the body. Fields that are nonuniform over volumes comparable to the human body may occur due to highly directional sources, standing-waves, re-radiating sources or in the near field.

General population/uncontrolled exposure. For FCC purposes, applies to human exposure to RF fields when the general public is exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public always fall under this category when exposure is not employment-related.

Maximum permissible exposure (MPE). The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with an acceptable safety factor.

Occupational/controlled exposure. For FCC purposes, applies to human exposure to RF fields when persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see definition above), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.





Photosimulation of proposed telecommunications site

